311* A randomised controlled trial of a behavioural nutrition education programme "Eat Well with CF" for adults with CF

H. Watson[1], D. Bilton[1], H. Truby[2]. [1]*Papworth Hospital Adult CF Centre,* [2]*School of Biomedical and Molecular Sciences, University of Surrey, UK*

Introduction: A meta analysis examining methods for weight gain in CF recommended a randomised controlled trial of a nutrition education and behavioural intervention. A home-based behavioural nutrition education programme was developed for adults, entitled "Eat well with CF". This was peer reviewed, patient acceptability tested and a pilot study completed.
Methods: Participants were randomized to the intervention group (n = 37), who completed the 10-week "Eat Well with CF" programme, or the control group (standard dietetic care n = 37). The primary outcome measure was weight change over 6 and 12 months; secondary outcome measures included gains in nutrition knowledge, self-efficacy and increased dietary fat intake.
Results: After 6 months the average weight gain in the intervention group was 0.57 kg (sd 2.4)) compared to control weight gain of 0.09 kg (sd 3.6), ($p = 0.628$). Subjects undertaking the "Eat well with CF" Programme had significantly increased their self-efficacy ($p = 0.003$), their specific nutritional knowledge ($p < 0.001$) and their reported dietary fat intake ($p = 0.014$) compared to the control group. At 12 months, the average weight gain was 0.02 kg in the control group and 1.14 kg in the intervention group with no statistical differences between the two groups. The intervention group continued to show a marked and significant improvement in CF specific nutritional knowledge and self-efficacy score.
Conclusion: Patients completing the new home based behavioural nutrition education programme significantly improved specific nutrition knowledge and self-efficacy at 6 and 12 months and reported fat intake at 6 months. The study suggests this novel approach to nutrition education is effective.

312 Evaluating the process of a behavioural nutrition education programme "Eat Well with CF" for adults with CF

H. Watson[1], D. Bilton[1], H. Truby[2]. [1]*Papworth Hospital Adult CF Centre,* [2]*School of Biomedical and Molecular Sciences, University of Surrey, UK*

Introduction: To date, nutrition education interventions have focused on children and adolescents. This study reports on a process evaluation, which aimed to evaluate the efficacy and acceptability of a new home, based nutritional education programme for adults with CF, entitled "Eat Well with CF". The programme was developed, peer reviewed and tested for patient acceptability prior to commencing the trial.
Methods: Participants were randomised to the intervention group, who completed the "Eat well with CF" programme over a 10-week period (n = 37) or the control group (standard dietetic care n = 37). The intervention process was evaluated using a study specific 16-item questionnaire. Subjects refusing to take part in the study were followed-up and reasons for non-participation obtained.
Results: Completed questionnaires were returned by 25/37 intervention group patients (67%). 23/25 (92%) considered the programme to be positive and 92% (23/25) a good method of learning about nutrition. 18/25 (72%) reported they "learned a lot", 92% saying they learned more than they expected.
Reasons for non-participation included work commitments (86%) and interestingly, difficulties in reading and comprehension of a written programme (9.5%). As a consequence, an audio version on CD was produced and tested in six patients. All 6 patients (100%) said the CD was a good alternative for those with reading difficulties, but would be a useful additional resource for all.
Conclusion: The process evaluation results suggest the suitability and acceptability of the written and audio versions of "Eat well with CF" for adults with CF. Not all adults with CF achieve reading skills that enable them to gain the full benefit from written educational material.

313 Sun exposure, rather than oral supplements, determines Vitamin D serum levels (VDSL) in cystic fibrosis (CF)

E. Robberecht, S. Vandewalle, C. Wehlou, D. Declercq, S. Van Biervliet. *Cystic Fibrosis Center, Dept. Pediatrics, Ghent University Hospital, Belgium*

Aim: In CF VDSL can vary widely over the year and the effect of oral supplements is disappointing. This study aims to clarify the relative importance of VDSL sources.
Method: Over 4 consecutive years (2001–05) 474 annual VDSL of 137 CF patients (M age 15.6 y.; range 0–42 y.) were compared.
Results: Ranked per month VDSL each year design a S-shaped curve, convex from June to October (Sunny period) and concave from November to May (Dark period), significantly higher according to the amount of sun hours in the preceding months. Means of S medians of the 4 years (26.6 ng/ml) differ from D (17.3 ng/ml) ($p < 0.001$). These results are not significantly different from normal controls and were found both in pancreatic insufficient as sufficient patients although the latter group was to small (n = 11) to reach statistical significance. Oral Vit. D supplements, even impulses of up to 50000 IU/wk for 12 wks, did not influence VDSL. Values mirrored preceding sunshine duration.
Conclusion: This study of VDSL found normal values in CF, significantly different between the sunny and darker period of the year. Individual VDSL should therefore be compared to normal values in these distinct periods. VDSL are found to be concordant with sun exposure, not with oral supplements. Exposure to sunlight should thus maximally be encouraged while the need for oral supplements can be questioned.

314 Implementing standards of care. How are we doing? How can we improve?

A.M. Morton, H. White, D.G. Peckham, S.P. Conway. *Adult Cystic Fibrosis Unit, Seacroft Hospital, Leeds, UK*

The ECFS and UK CF Trust have published Consensus Documents defining standards for routine evaluation, monitoring and treatment of people with CF. Adopting these standards provide a quality assurance tool and a basis for audit. With growing clinic populations and the need for greater segregation, achieving the standards can be difficult.
Aim: To audit 1) Annual assessment of pancreatic status in pancreatic sufficient (PS) patients by faecal pancreatic elastase (FPE), 2) Annual screening for CFRD with the oral glucose tolerance test (OGTT) 3) Annual diabetic review of CFRD patients including retinal photography in a large segregated Adult CF Centre.
Method: Audit was undertaken in 2004 (A) and 2005 (B) using a database and hand searching of records.
Results: 1) (A) 29 pts were PS 21% had FPE measured, 24% did not return specimens, (B) 36 pts were PS 58% had FPE measured 11% did not return specimens; 2) (A) 162 pts needed OGTT: 73% had one or more; (B) 178 pts needed OGTT 71% had one or more; 3) New CFRD clinic established 2004. In 2005 (B) 91 pts had CFRD 79% had an annual review 74% with a Doctor specialising in CFRD, 5% locally by a Diabetologist, 51% had retinal screening.
Discussion: Achieving the standards set by the ECFS and UK CF Trust can be difficult in a large CF Centre. Non-attendance and segregation are factors in this. Introduction of a systematic approach to screening has resulted in improvements in screening for PS but not CFRD. The newly established monthly CFRD clinic has improved our service but we need to address uptake of retinal screening. Increasing numbers of patients will require OGTT year on year. Quantitative and qualitative audit data are needed to determine whether service administration or patient education in the benefits of screening are needed to further improve service quality.